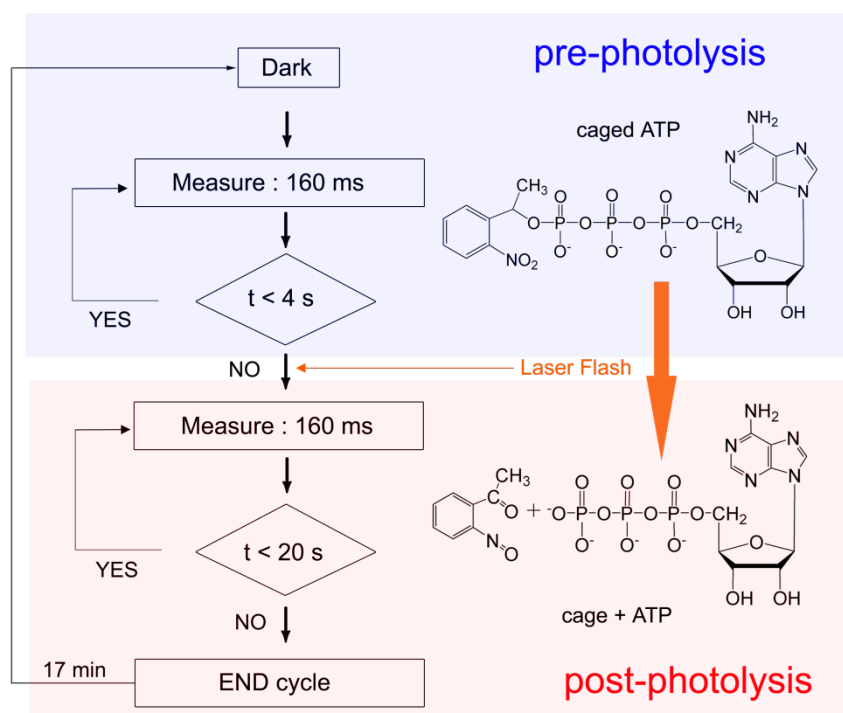


## SUPPLEMENT FOR

### REAL-TIME CONFORMATIONAL TRANSITIONS ARE COUPLED TO CHEMICAL STEPS IN ATP HYDROLYSIS BY HUMAN KINESIN-5



**Fig. S1. Schematic diagram of Eg5 hydrolysis experiment.** Time resolution of 160 ms was performed after the single laser flash (355 nm) for the photolysis of caged-ATP. During data acquisition, FT-IR data were acquired at RT for 4 s, a single laser flash (355 nm with 10 mJ of energy) initiated photolysis of caged ATP, and 20 s of postflash data were collected. The protein sample was allowed to relax for 17 min before proceeding to the next iteration. This loop was repeated 20 times for each sample. Data were individually evaluated to ensure reproducibility between iterations of each experiment.